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| NWS Form E-5 (04-2006) (PRES. BY NWS Instruction 10-924) | U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE | HYDROLOGIC SERVICE AREA (HSA) |
| | | WFO Caribou, Maine |
| MONTHLY REPORT OF HYDROLOGIC CONDITIONS | | REPORT FOR: MONTH YEAR July 2017 |
| | | SIGNATURE Maureen Hastings, HPM |
| TO: Hydrologic Information Center, W/OS31 NOAA's National Weather Service 1325 East West Highway Silver Spring, MD 20910-3283 | | DATE August 16, 2017 |

When no flooding occurs, include miscellaneous river conditions below the small box, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924).

An X inside this box indicates that no flooding occurred within this hydrologic service area.

July 2017

Although river flows and groundwater levels averaged near normal through the month, July was actually fairly dry. This is especially true of the latter half of the month; many locations received less than a quarter of an inch during the July 21st- July 31st time frame. Most spots finished the month at least one inch drier than normal, with several locations seeing a precipitation deficit of 2 inches or more.

Even during the relatively “wetter” part of the month, rainfall events were hard to come by, and none could be considered significant. Caribou received over an inch of rainfall on the 7th, but for the most part, most rainfall events were less than three-quarters of an inch. Needless to say, rivers and streams were quite low by the end of the month. By August 1st, much of Aroostook, Penobscot, and all of Hancock and Washington Counties were considered abnormally dry. Areas from Houlton to Sherman to Danforth, Grand Lake Stream, and Machias were in moderate drought by the end of the month. See below for the August 1 Drought Monitor graphic.

Needless to say, rivers and streams saw flows gradually reduce through the month, especially after the 20th. Some modest rises (2 feet or less) were seen on the northern waterways, such as the St John, Aroostook, and Allagash, early in the month, after the rainfall event of the 7th through the 8th. This event did result in the issuance of a few Flood Advisories, but no flooding was noted.

The only other rainfall of note – and that term is used loosely – on the 20th into the 21st. A shortwave trough rotated across the region from Quebec, producing scattered convection. There were some severe thunderstorms, along with hail and wind reports, as well as some heavy rainfall. No flooding was reported, but Flood Advisories were issued. The COOP observer in Levant reported 1.24 inches of rain fell in 20 minutes.

Overall, river flows averaged normal across the state, though Downeast was a little below normal.

Precipitation Totals for Select Locations

All units inches

| Location | Total Precip | Normal Precipitation | Departure from Normal | Snowfall | Normal Snowfall | Departure from Normal Snowfall | Greatest Snow Depth |
|-------------|--------------|----------------------|-----------------------|----------|-----------------|--------------------------------|---------------------|
| Frenchville | 1.95 | 4.31 | -2.36 | | | | |
| Caribou | 2.62 | 4.08 | -1.46 | | | | |
| Houlton | 1.79 | 3.66 | -1.87 | | | | |
| Millinocket | 1.66 | 3.85 | -2.19 | | | | |
| Bangor | 1.91 | 3.46 | -1.55 | | | | |

*Millinocket snowfall measured at wastewater treatment plant, not the ASOS site

Stream Flows for Selected Rivers

| River | Normal Flow (cfs) | Monthly Mean Flow (cfs) | Monthly Mean Precip (in) | Percentile Class | Drainage (mi ²) | Years of Record |
|-------------------------------------|-------------------|-------------------------|--------------------------|------------------|-----------------------------|-----------------|
| St. John River at Ninemile Bridge | 755 – 1800 | 1150 | 0.99 | Normal | 1341 | 67 |
| St. John River at Fort Kent | 3910 – 8920 | 5180 | 1.01 | Normal | 5665 | 91 |
| Aroostook River at Washburn | 755 – 1790 | 926 | 0.65 | Normal | 1654 | 87 |
| Narraguagus River at Cherryfield | 101 – 214 | 92.3 | 0.47 | Low | 227 | 69 |
| E Br Penobscot River at Grindstone | 821 – 1610 | 894 | 1.23 | Normal | 837 | 115 |
| Mattawamkeag nr Mattawamkeag | 477 – 1450 | 553 | 0.45 | Normal | 1418 | 83 |
| Piscataquis River nr Dover-Foxcroft | 89.7 – 301 | 205 | 0.79 | Normal | 298 | 115 |

Groundwater Levels

| Station | Normal Range (ft) | Mean Water Level Below Land-sfc Datum (ft) | Departure from Month-end Median (ft) | Percentile Class | Years of Record |
|----------------|-------------------|--|--------------------------------------|------------------|-----------------|
| McFarland Hill | 20.90 – 7.46 | 18.41 | 2.51 | Normal | 13 |
| Crooked Road | 6.72 – 5.50 | 6.50 | 0.18 | Normal | 13 |
| Hadley Lakes | 5.59 – 4.88 | 5.07 | -0.15 | Normal | 30 |
| Kenduskeag | 23.40 – 21.90 | 22.64 | 0.04 | Normal | 37 |
| Calais | 3.75 – 1.72 | 2.51 | -0.43 | Normal | 16 |
| Millinocket | 9.93 – 8.66 | 9.08 | -0.11 | Normal | 22 |

| | | | | | |
|--------------|---------------|-------|-------|--------|----|
| Clayton Lake | 15.60 – 14.80 | 15.53 | 0.23 | Normal | 37 |
| Fort Kent | 9.94 – 7.42 | 7.40 | -1.23 | High | 38 |

| Flow or Water Level | Percentile Range | Explanation |
|---------------------|---------------------------------------|--|
| Record Low | 0 th | The monthly mean streamflow or median water level during this month is the lowest ever recorded during the period of record for this site. |
| Very Low | 0 th to 10 th | The monthly mean streamflow or median water level during this month is less than the 10 th percentile when compared to all of the months during the period of record for this site. |
| Low | 10 th to 25 th | The monthly mean streamflow or median water level during this month is between the 10 th and 25 th percentiles when compared to all of the months during the period of record for this site. |
| Normal | 25 th to 75 th | The monthly mean streamflow or median water level during this month is between the 25 th and 75 th percentiles when compared to all of the months during the period of record for this site. |
| High | 75 th to 90 th | The monthly mean streamflow or median water level during this month is between the 75 th and 90 th percentiles when compared to all of the months during the period of record for this site. |
| Very High | 90 th to 100 th | The monthly mean streamflow or median water level during this month is greater than the 90 th percentile when compared to all of the months during the period of record for this site. |
| Record High | 100 th | The monthly mean streamflow or median water level during this month is the highest ever recorded during the period of record for this site. |

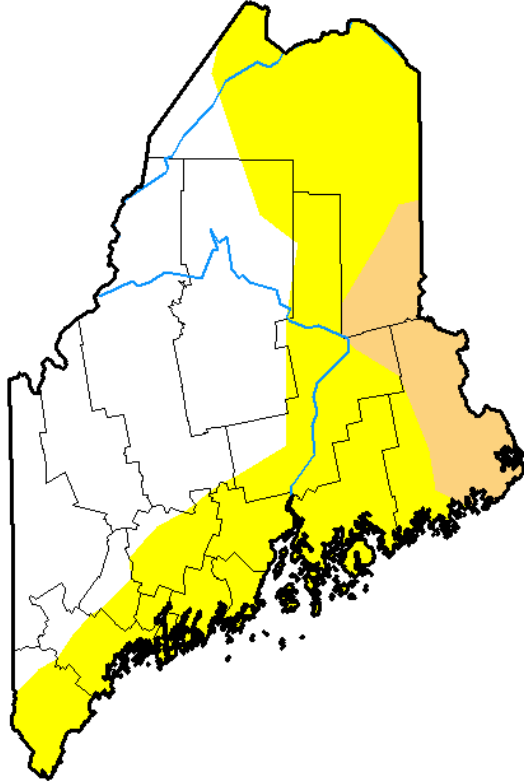
**Non-Routine Hydrologic Products
July 2017
WFO Caribou, ME**

| PIL | TIME (UTC) | Date | Description |
|--------|------------|-----------|--|
| FLSCAR | 2226 | 7/7/2017 | Flood Advisory for Central Piscataquis, N Somerset, and NW Penobscot Counties |
| FLSCAR | 0009 | 7/8/2017 | Continue Flood Advisory |
| FLSCAR | 0132 | 7/8/2017 | Expire Flood Advisory |
| FLSCAR | 0319 | 7/8/2017 | Flood Advisory for NW Aroostook County |
| FLSCAR | 0643 | 7/8/2017 | Cancel Flood Advisory |
| FLSCAR | 1924 | 7/8/2017 | Urban and Small Stream Flood Advisory for E Aroostook County |
| FLSCAR | 1930 | 7/8/2017 | Urban and Small Stream Flood Advisory for SE Aroostook and N Central Penobscot Counties |
| FLSCAR | 2116 | 7/8/2017 | Cancel Urban and Small Stream Flood Advisory for E Aroostook County |
| FLSCAR | 2149 | 7/8/2017 | Cancel Urban and Small Stream Flood Advisory for SE Aroostook and N Central Penobscot Counties |
| FLSCAR | 2123 | 7/17/2017 | Small Stream Flood Advisory for Poor Drainage Areas in W Central Piscataquis County |
| FLSCAR | 2308 | 7/17/2017 | Continue Small Stream Flood Advisory |
| FLSCAR | 0007 | 7/18/2017 | Extend Small Stream Flood Advisory for Poor Drainage Areas in W Central Piscataquis County |
| FLSCAR | 0151 | 7/18/2017 | Continue Small Stream Flood Advisory |
| FLSCAR | 0310 | 7/18/2017 | Expire Small Stream Flood Advisory |
| | | | |

**Significant River Crests
July 2017
WFO Caribou, ME**

U.S. Drought Monitor
Maine

August 1, 2017
 (Released Thursday, Aug. 3, 2017)
 Valid 8 a.m. EDT



Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|--|-------|-------|-------|-------|-------|------|
| Current | 43.36 | 56.64 | 9.82 | 0.00 | 0.00 | 0.00 |
| Last Week <i>07-25-2017</i> | 63.93 | 36.07 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 Months Ago <i>05-02-2017</i> | 92.04 | 7.96 | 0.00 | 0.00 | 0.00 | 0.00 |
| Start of Calendar Year <i>01-03-2017</i> | 23.74 | 76.26 | 62.91 | 0.57 | 0.00 | 0.00 |
| Start of Water Year <i>09-27-2016</i> | 42.23 | 57.77 | 40.81 | 26.75 | 8.35 | 0.00 |
| One Year Ago <i>08-02-2016</i> | 53.40 | 46.60 | 11.55 | 2.68 | 0.00 | 0.00 |

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

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 National Drought Mitigation Center



<http://droughtmonitor.unl.edu/>